TURKISH ECONOMIC ASSOCIATION

DISCUSSION PAPER 2005/6
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FINANCIAL DOLLARIZATION, (DE)DOLLARIZATION AND THE TURKISH EXPERIENCE

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ABSTRACT

This paper briefly discusses the causes and consequences of financial dollarization with special reference to the recent Turkish experience. Most developing countries have a limited, unofficial form of dollarization, which makes them vulnerable to external shocks through currency mismatches. Financial dollarization can limit the scope of macroeconomic policies and cause fear of floating. Consequently, dedollarization policies are now shifting from a generally passive stance "learning to live with it" type approach to a more active stance such as "carrot and stick" approach. This paper also presents a composite financial dollarization index for Turkey along with a brief discussion of corporate sector debt dollarization. The recent Turkish experience towards endogenous dedollarization appears to be consistent with the view that dedollarization can also be viewed as a side effect of prudent fiscal and monetary policies. Although the dollarization composite index is on a decreasing trend, it is however still high. Therefore, an active dedollarization strategy associated with a sound macroeconomic policy stance should be considered to support the implementation of a Full Fledged Inflation Targeting Regime in the near future.
Keywords: Financial Dollarization, Dedollarization, Turkey.

ÖZET

Bu çalışmada yakın dönem Türkiye deneyimi özelinde finansal dolarizasyonun neden ve sonuçları tartışılacaktır.Gelişmekte olan bir çok ülkede sınırlı, resmi olmayan dolarizasyon mevcuttur. Bu tip ülkeler ekonomilerindeki para uyuşmazlığı nedeniyle dışsal soklara karşı kırılgandır. Finansal dolarizasyon politika uygulamasında farklı kısıtlara ve dalgalanma korkusuna neden olabilmektedir. Dedolarizasyon politikaları aktif bir nitelik kazanarak "dolarizasyon ile yaşamayı öğrenmek" yerine "ödül (havuç) ve yaptırım (sopa)" yaklaşımına kaymaktadır. Bu çalışmada Türkiye için bileşik finansal dolarizasyon endeksi sunulmakta ve ülkedeki şirketler kesiminin borç dolarizasyonu kısaca tartışılmaktadır.Ülkemizde son yıllarda gözlenen makroekonomik disiplin ve buna eşik eden içsel dedolarizasyon süreci, dedolarizasyonun ihtiyatlı maliye ve para politikalarının sonucunda oluşacağını öne süren görüş ile tutarlıdır. Türkiye'de dolarizasyon birleşik endeksi azalsada, halen yüksek seviyededir. Yakın gelecekte açık enflasyon hedeflemesi rejimi uygulanacak olan ülkemizde istikrar programına eşlik eden aktif bir dedolarizasyon stratejisinin uygulanacak olan para politikasını destekleyeceği düşünülmektedir.

[φ] All the views expressed in this paper belong to the author and do not necessarily represent the views of the Central Bank of the Republic of Turkey. I would like to thank Fatih Özatay, Erdal Özmen, Saziye Gazioglu, Yüksel Gormez and Mehtap Kesriyeli for their valuable comments.

Anahtar Kelimeler: Finansal Dolarizasyon, Dedolarizasyon, Türkiye.

FINANCIAL DOLLARIZATION, (DE)DOLLARIZATION AND THE TURKISH EXPERIENCE

"Although some transition economies have managed to reverse or slow dollarization by establishing credible currencies and a stable macroeconomic environment, dollarization is not going to wither away."

Honohan and Shi (2002)

I. INTRODUCTION

In this paper financial dollarization and its economic policy consequences considering also the recent Turkish experience is discussed. As it is generally agreed, many economies -especially emerging countries- have significant amount of foreign currencies in their monetary systems. The existence of dollarization may cause problems in implementation of monetary policy and fear of floating, reduces seignorage revenue and can increase exposure of financial system to external shocks through currency/maturity mismatches.

The structure of the paper is as follows. In the second section fundamental concepts about dollarization will be presented. Section II discusses also official dollarization. Section III presents partial (unofficial) dollarization and dollarization composite indices for Turkey. Section IV is devoted to a brief discussion of corporate/real sector liability dollarization in Turkey. Finally, Section V concludes.

II. FUNDAMENTAL CONCEPTS ABOUT DOLLARIZATION

The "dollarization" is a shorthand term for the use of any foreign currency by another country. Most developing countries have a limited, unofficial form of dollarization. To a greater or lesser degree, their residents already hold foreign currency and foreign currency-denominated deposits at domestic banks. In high inflation countries, dollars or some other hard currency may be in widespread use in daily transactions, alongside the local currency.

Informal (unofficial) dollarization is often the result of economic instability and high inflation, and the desire of residents to diversify and protect their assets from the risks of devaluation of their own currencies. According to Schuler (2000), unofficial dollarization occurs when people hold much of their financial wealth in foreign assets even though foreign

currency is not legal tender[1]. It is useful to distinguish between two motives for the demand for foreign currency assets: "currency substitution" and "asset substitution". In the case of "currency substitution" foreign assets are used as money, essentially as means of payment and unit of account, and it typically arises under conditions of high inflation or hyperinflation when the high cost of using domestic currency for transactions causes the economic agents to search for available alternatives. Once the use of foreign currency in transactions becomes accepted, it may not be rapidly abandoned. Remarkably, the increase in dollarization in some Latin American and Asian countries has continued and accelerated in recent years even a following successful stabilization program. On the other hand, "Asset substitution" results from risk and return considerations about domestic and foreign assets. Historically, foreign currency-denominated assets have provided the opportunity of insuring against macroeconomic risks, such as price instability and prolonged depressions in many developing countries. Even under conditions of currency stability, foreign currency-denominated assets may still serve it.

In addition to these, The World Bank Group categorizes dollarization in three groups: asset dollarization, liability dollarization and full dollarization[2]. The term "Asset Dollarization" refers to the use of foreign currency in any of the three functions of money: unit of account, means of exchange and store of value. "Currency Substitution" refers to the use of foreign money only as means of exchange. Thus an economy can be highly dollarized, but not subject to currency substitution. "Liability Dollarization" which has emerged in the recent literature of currency and banking crises in emerging markets is that either the domestic banking system or the government can have relatively large foreign currency debt obligations. Therefore a country can be scarcely dollarized in the asset side, but the loans made by the banking system can be mostly in foreign currency. "Full or official Dollarization" is a situation in which a country abandons its own currency and adopts another country's currency as a means of payment and unit of account. Few countries in the world have dollarized completely (e.g. Panama).

According to IMF (World Economic Outlook, 1997, p. 92):

> "*Dollarization, the holding by residents of a significant share of their assets in foreign-currency-denominated form, is a common feature of developing and transition economies. It is a response to economic instability and high inflation, and to the desire of domestic residents to diversify their asset portfolios. In countries experiencing high*

[1] *Legal tender means that a currency is legally acceptable as payment for all debts, unless perhaps the parties to the payment have specified payment in another currency. Legal tender differs from forced tender, which means that people must accept a currency in payment even if they would prefer to specify another currency (Schuler, 2000).*

[2] *http://lnweb18.worldbank.org/External/lac/lac.nsf/0/0B9D0B416925900B852568880039*

inflation dollarization is typically quite widespread, as the public seeks protection from the cost of holding assets denominated in domestic currency. But remarkably, the increase in dollarization in some Latin American and Asian countries has continued and even accelerated in recent years following successful stabilization."

In addition to all these classifications, in the last years with the help of increasing financial globalization, a new term that is "financial dollarization" has emerged. Financial dollarization comprise both sides of economic agents' balance sheets in the economy, therefore it is broader concept than liability dollarization (liability side of balance sheet) and asset dollarization (asset side of balance sheet). Financial dollarization is defined as the holding by residents of foreign currency denominated assets and liabilities including non-bank assets such as sovereign debt. According to Levy-Yeyati and Arias (2003) financial dollarization, in turn, simply denotes an empirical observation, namely, the holding by residents of foreign currency denominated assets and liabilities that includes nonbank assets such as commercial paper or sovereign debt.

Official Dollarization

In the official dollarization, which is also called full dollarization foreign currency is accepted as legal tender. Hence in addition to private agents in the economy, government also makes its payments in the form of foreign currency. Official dollarization functions as monetary system among regions of a single country or an officially dollarized country may be thought as a part of regional currency area. As it is known, arbitrage in any regional currency area yields similar price levels for tradable goods and services. Therefore inflation rate differences among countries are supposed to converge each other.

Full dollarization creates some opportunities and threats for any country. Main advantages of dollarization are decrease in nominal interest rates, disappearance of currency crises, stable growth and prices, increase in economic and financial integration. On the other hand, loss of independent monetary policy and seignorage revenue is seen as the basic threats or disadvantages of dollarization.

Official dollarization regime has pros and cons like other economic decisions[3]. A country should consider its special properties when evaluating pros and cons of dollarization. But some general conditions may be discussed. For example, officially dollarization may present more benefits relative to the costs for any country, if there is a poor history of monetary performance, the advantage of keeping a national currency is smaller, there is

[3] *See Schuler, K., 2000, "Basics of Dollarization" for a discussion of the causes and consequences of official dollarization.*

significant unofficially dollarization (small seignorage revenue) and substance of price stickiness in terms of foreign currency. But it should be considered that devaluation decision could not be taken easily since its' negative effects on financial institutions and firms.

Partial or Unofficial Dollarization

Unofficial dollarization is seen when domestic residents prefer to hold much of their financial wealth in the form of foreign assets, although foreign currency is not accepted as "legal tender". Basic unofficial dollarization instruments are foreign bonds and other nonmonetary assets that generally held abroad, foreign currency deposits held abroad, foreign currency deposits in the domestic banking system and foreign notes in circulation.

Economists are putting more emphasis on caution as the costs and risks of dollarization have become more apparent (Heysen, 2005). Unofficial dollarization makes demand for domestic currency unstable. Hence central bank may face with difficulties in the case of changing portfolio preferences of investors over domestic currency and foreign currency. In addition to this "instability effect on the demand for money", it may create "stability effect on the banking system" since depositors are allowed to hold foreign exchange deposits, and they do not need to send their deposits abroad. The degree of unofficial dollarization is often assessed by the ratio of foreign currency deposits to overall deposit volume in the banking system or broad money generally. However, such a measure may be misleading as it does not contain the foreign currency in circulation which is often unmeasured but a significant component of unofficial dollarization (Reinhart et al., 2003).

In addition to these types, liability dollarization may be observed. Liability dollarization concept emerged in the recent literature of currency and banking crises in emerging markets and it is seen either the domestic banking system or the government has relatively large foreign currency debt obligations. Therefore a country can be scarcely dollarized in the asset side, but the loans made by the banking system can be mostly in foreign currency.

Partial dollarization may create obstacles for any monetary policy implementation. For example, currency substitution affects the choice of monetary aggregates in the monetary targeting policy as the presence of it implies that dollar monetary assets should also be the relevant concept of money. As it is widely acknowledged today, the breakdown of the relationship between monetary aggregates and inflation, loss of independent monetary policy

and unhappy experience of pegged exchange rate regime countries made Full Fledged Inflation Targeting monetary regimes (FFIT) more attractive in recent years. However, partial dollarization creates some obstacles also for successful implementation of FFIT. This is because; the absence of external dominance (high degree dollarization) is required for a successful FFIT (Mishkin, 2004). Inflation targeting regimes require flexible exchange rate regimes. The volatility of exchange rates may increase domestic currency value of foreign exchange denominated/ linked debt, may spur currency and asset substitution and may harm balance sheets of firms, households and banks in the case of high level of financial dollarization. An external shock may also trigger increasing debt burden of treasury that has significant amount of FX linked and FX denominated debt. Furthermore, it may also affect financial and real sector balance sheets negatively in the case of high financial dollarization. Significant depreciation of domestic currency may affect financial solvency of firms and financial institutions. Therefore, the scope for FFIT regime may be severely limited when financial dollarization in the economy is significant (Mishkin, 2004).

To summarize, financial dollarization causes currency mismatches in the economy. The dollarization of public debt and dollarization of firms and financial institutions' balance sheets increase the fragility of real and financial sectors. Sharp currency depreciation may cause unsustainable fiscal balances and may cause bank and firm collapses since assets are typically denominated in domestic currency and so do not increase in value, there is a resulting decline in net worth. This deterioration in balance sheets then increases adverse selection and moral hazard problems, which leads to financial instability and a sharp decline in investment and economic activity (Mishkin, 2001 and Calvo, Izquierdo and Mejía 2004). When we consider also the "original sin" hypothesis that means most countries cannot borrow from international capital markets in their own currencies we may observe increasing exposure of financial dollarization on the economy as a whole.

Another risk of financial dollarization is related to pricing behavior of firms in the economy (Calvo and Reinhart, 2000). In a financially dollarized country the exchange rate passthrough is high which is important for a central bank whose main objective is achieving price stability. In a financially dollarized economy, real seignorage revenue is shared by foreign currency issuer central bank and domestic currency issuer central bank. Therefore financial dollarization also reduces seignorage revenue of domestic authorities.

Reinhart et al. (2003) find little empirical support for the view that dollarization hinders the effectiveness of monetary policy. They demonstrate that average inflation has

been higher and more volatile in countries with a high degree of dollarization than in those where the degree of dollarization has been low or moderate. They find significant exchange rate pass through in partially dollarized countries.

III. A DOLLARIZATION COMPOSITE INDEX FOR TURKEY

In this section, a composite index developed by Reinhart et al. (2003) is constructed to determine dollarization trends in Turkey. In Reinhart et al. (2003) composite index of dollarization was defined as the sum of the ratio of foreign currency deposits (FCD) to broad money, the ratio of domestic government debt in foreign currency to total domestic government debt, and the ratio of external debt to GNP. To construct the composite index, each of the three ratios was previously transformed into an index that takes values ranging from 0 to 10. Then, the composite index is constructed by summing those three ratios. As expected, the composite index takes values ranging from 0 to 30.

Table 1 demonstrates the criteria used to transform the ratios obtained from data to indices. Table 2 demonstrates the composite index, its determinants and their index values for Turkey. The dollarization composite index values increased especially in crisis years of 1994, 1999 and 2001. This is consistent with theoretical explanations of dollarization. As discussed above, partial dollarization is result of some macroeconomic factors and institutional factors. Macroeconomic imbalances in country, such as high and volatile inflation rates and depreciating domestic currency, unsuccessful stabilization efforts, financial crises, under developed capital markets and loss of confidence in domestic currency may cause and exacerbate partial dollarization. In addition to these macroeconomic factors, some institutional factors may also affect the partial dollarization process in country. In the crisis years macroeconomic factors and instutional factors deteriorate and support partial dollarization.

Table 1: Indices of Dollarization

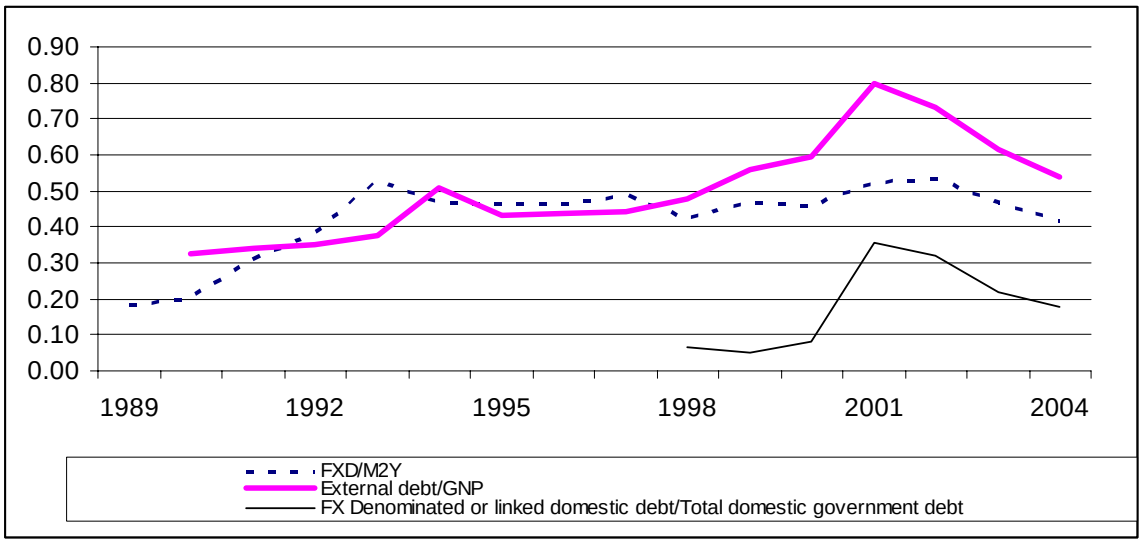
Ratio (R)	**Index Value**	Ratio (R)	**Index Value**
R=0	**0**	5<R<6 or R=6	**6**
0<R<1 or R=1	**1**	6<R<7 or R=7	**7**
1<R<2 or R=2	**2**	7<R<8 or R=8	**8**
2<R<3 or R=3	**3**	8<R<9 or R=9	**9**
3<R<4 or R=4	**4**	R>9	**10**
4<R<5 or R=5	**5**		

Table 2: The Determinants of Composite Index and Their Index Values for Turkey

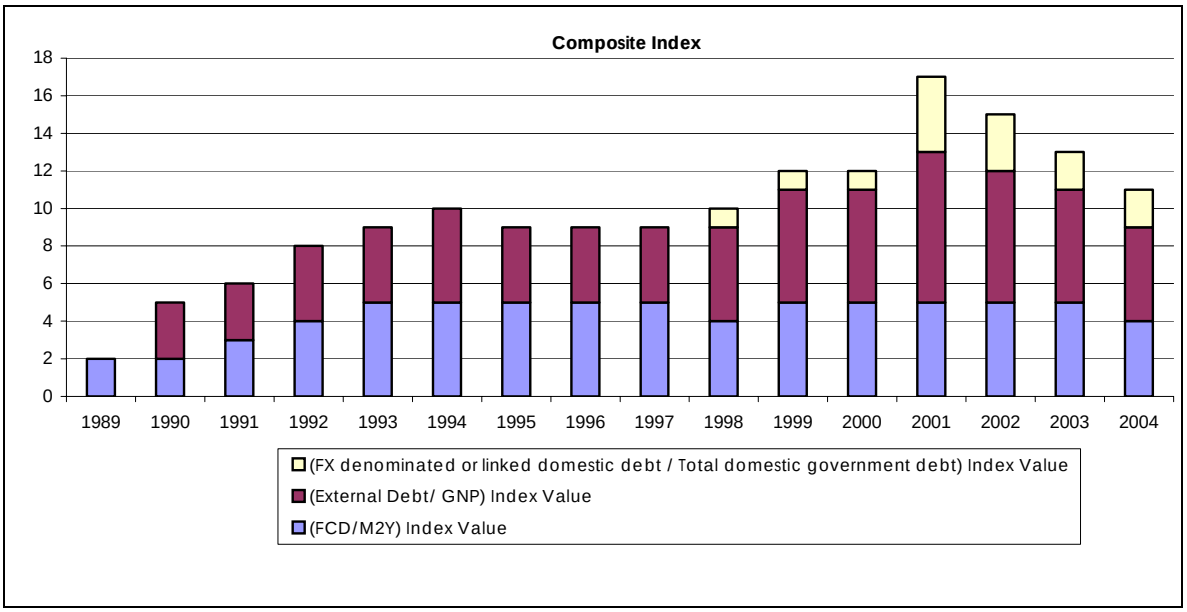
Year	FCD/M2Y*	(FCD/M2Y) Index Value (A)	External Debt/ GNP**	(External Debt/ GNP) Index Value (B)	FX denominated or linked domestic debt / Total domestic government debt *	(FX denominated or linked domestic debt / Total domestic government debt) Index Value (C)	Composite Index (A+B+C)
1989	0,19	2	-	-	-	-	2
1990	0,20	2	0,33	3	-	-	5
1991	0,31	3	0,34	3	-	-	6
1992	0,38	4	0,35	4	-	-	8
1993	0,53	5	0,38	4	-	-	9
1994	0,47	5	0,51	5	-	-	10
1995	0,46	5	0,43	4	-	-	9
1996	0,46	5	0,44	4	-	-	9
1997	0,49	5	0,44	4	-	-	9
1998	0,42	4	0,48	5	0,07	1	10
1999	0,47	5	0,56	6	0,05	1	12
2000	0,46	5	0,60	6	0,08	1	12
2001	0,53	5	0,80	8	0,36	4	17
2002	0,53	5	0,73	7	0,32	3	15
2003	0,47	5	0,61	6	0,22	2	13
2004	0.42	4	0.54	5	0.18	2	11

* in terms of TL. **The annual GNP in terms of USD is calculated by dividing quarterly GNP to CBRT's average bid rate for USD for the relevant quarter.

Graph 1: The Evaluation of Determinants of Composite Index



Graph 2: The shares of determinants of Composite Index

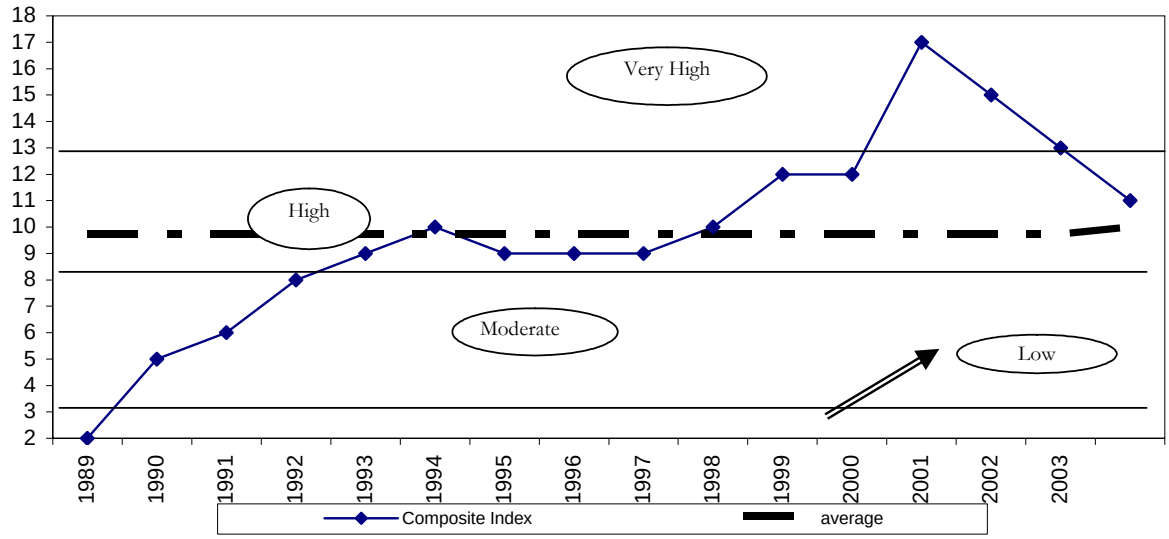


The success of recently completed stabilization program in dedollarization route is clear. Implementation of stabilization program alleviated macroeconomic and institutional factors that support dollarization and therefore dollarization composite index decreased from 17 to 11. The recent Turkish experience towards endogenous dedollarization thus appears to be consistent with the view that dedollarization can also be viewed as a side effect of prudent fiscal and monetary policies. Although the dollarization composite index decreased significantly with the new policy regime, it is however still high. Therefore, the need for an

active dedollarization strategy associated with a sound macroeconomic policy stance such as the one suggested by the carrot and stick approach should be emphasized[4].

According to Reinhart et al. (2003), the degree of dollarization is considered as low for the range of 0-3, moderate for the range of 4-8, high for the range of 9-13 and very high for the range of 14-30. Graph 3 presents the degree of dollarization in Turkey. The average figure for the relevant period is 10 in Turkey and can be interpreted as high.

Graph 3: The Degree of Dollarization in Turkey



In Reinhart et al. (2003), the variety of dollarization in any country at any point in time is determined by considering the degree of domestic dollarization and the amount of foreign borrowing by the private sector. The domestic dollarization is determined by looking at the ratios of foreign currency deposits to broad money and of domestic government debt in foreign currency to total government debt. Countries are then divided in two groups: those where both ratios are below 10 percent, and those where at least one of the ratios exceeds 10 percent. The amount of private foreign borrowing is considered by determining share of private sector debt in total external debt. Countries are divided in two groups too: those where private sector debt accounts for at least 10 percent of total external debt, and those where the share is below 10 percent. By using those two criteria an economy can be classified into four categories. A country where domestic and external liability dollarization co-exist are

[4] *The carrot and stick approach will be discussed in the dedollarization section.*

classified as category 1; a country where dollarization is predominantly of a domestic nature is classified as category 2, a country where dollarization is predominantly of an external nature and private borrowing is not small is classified as category 3 and a country where domestic dollarization is low and where the bulk of the external liabilities are owed by the government is classified as category 4 (Table 3). When those criteria are applied for Turkey, we see Turkey is in the first category in the relevant period (Table 4). The significant increase in the share of private debt in total external debt draws attention.

Table 3: Varieties of Dollarization

	Private sector debt accounts for ten percent or more of total external debt	Private sector debt accounts for less than ten percent of total external debt
At least ten percent of broad money or of domestic public debt are denominated in or linked to a foreign currency	Category 1	Category 2
Less than ten percent of broad money and of domestic public debt are denominated in or linked to a foreign currency	Category 3	Category 4

Table 4: Variety of Dollarization in TURKEY

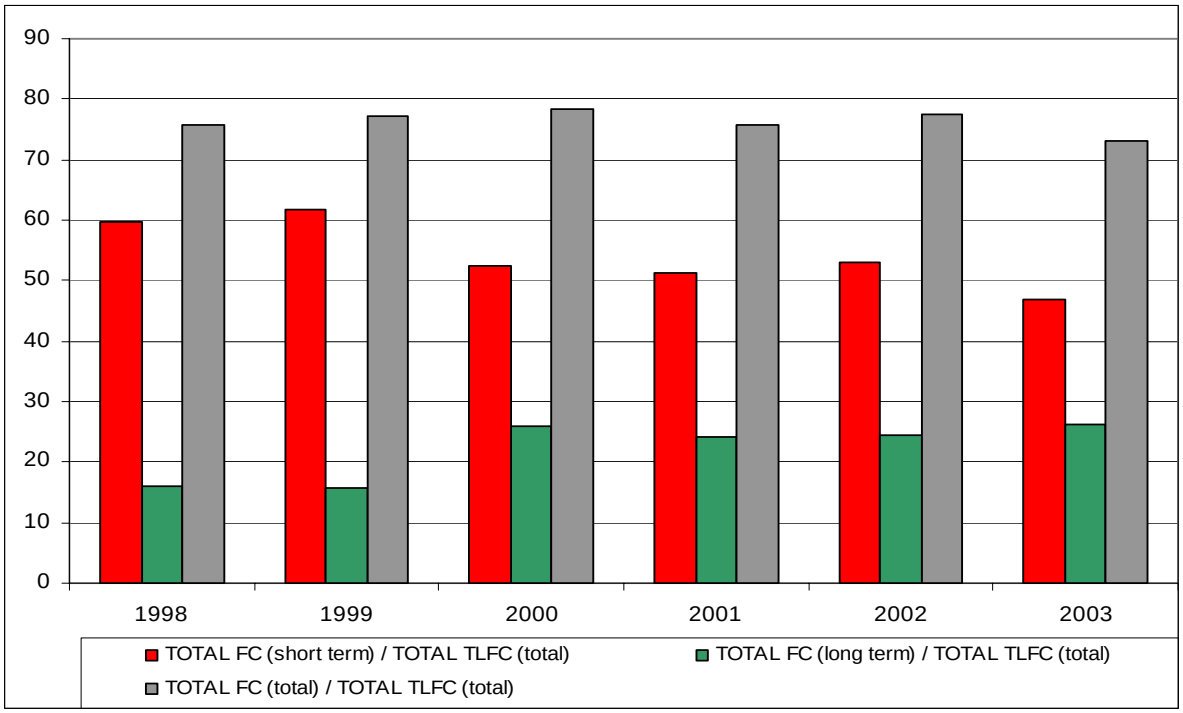
	FCD/M2Y*	FX denominated or linked domestic debt / Total domestic government debt	The share of private debt in total external debt **	Dollarization Category
1989	0,19	-	-	1
1990	0,20	-	-	1
1991	0,31	-	-	1
1992	0,38	-	-	1
1993	0,53	-	-	1
1994	0,47	-	-	1
1995	0,46	-		1
1996	0,46	-	0,33	1
1997	0,49	-	0,39	1
1998	0,42	0,07	0,45	1
1999	0,47	0,05	0,48	1
2000	0,46	0,08	0,47	1
2001	0,53	0,36	0,37	1
2002	0,53	0,32	0,34	1
2003	0,47	0,22	0,35	1
2004	0,42	0,18	0,41	1

* In terms of TL. ** In terms of USD.

IV. REAL SECTOR DOLLARIZATION

The success of recent stabilization program in (financial) dedollarization route is clear as discussed in previous section. However, financial dollarization concept is not enough for evaluating dollarization. Real sector (balance sheet) dollarization is also as important as financial dollarization and it should be considered. Although the main aim of this paper is to investigate financial dollarization especially, in this section liability dollarization in the consolidated balance sheet of Turkish manufacturing sector will discussed shortly.

Graph 4: Turkish Manufacturing Sector Debt Composition (%)



Source: Company Accounts, Central Bank of the Republic of Turkey.

Foreign currency credits extended to manufacturing sector are used to evaluate liability dollarization tendency in the real sector. Currency (and maturity) composition of credits is analyzed to evaluate real sector liability dollarization. Credits extended to manufacturing sector consist of credits in cash, non-cash credits, bad debts, bonds, commercial papers and funds used for leasing. All items are decomposed in terms of Turkish lira and foreign currency (FC) and short term versus long term. The long term and short-term shares of FC debt in total debt (TLFC) are investigated (Graph 4). There is no significant

improvement in real sector liability dollarization in the years between 1998 and 2003. All of the ratios examined fluctuate smoothly. But since consolidated data is used, further research by using sub-sectors data is needed to analyze. And asset side composition of manufacturing sector should also be examined to evaluate risks originating from currency mismatches in the balance sheets.

V) DEDOLLARIZATION

As the discussion so far demonstrates, dollarization creates different obstacles in policymaking process and leads economies suffering from external vulnerabilities and dedollarizing an economy can be very hard and costly (Galindo and Leiderman, 2005). Policy makers in dollarized countries are trying to solve financial dollarization related problems. In the light of these attempts, policy makers generally focused on two main complementary approaches. According to first approach, foreign exchange market in the domestic country necessitates "the revision and adaptation of existing prudential regulation in a way that eliminates distortions that hamper the use of local currency for financial transactions minimizing the costs in terms of financial disinter- mediation or distortions elsewhere" (Levy-Yeyati and Arias 2003). On the other hand, a second approach is proposed to increase the effectiveness of the first approach. In this respect, the second approach necessities "designing of local currency instruments so as to create and enhance the local currency substitutes for foreign currency assets and development of market for these instruments" (Levy-Yeyati and Arias 2003).

According to Levy-Yeyati and Arias (2003) the "stick" approach is related to prudential regulation. The existing prudential norms have been backing foreign exchange deposits through unremunerated reserve requirements and deposit insurance. However since domestic currency banks are not ultimately vulnerable to sudden changes in devaluation expectations unlike bi-currency banks, assigning the same reserve requirement and liquidity ratios to both deposits may not be rational. Therefore the costs of intermediation of foreign currency have to be increased by higher (risk inclusive) reserve requirement and higher liquidity requirements. This factor also compensates for the limited capacity of central bank to fulfill its role as a lender of last resort. In addition to these measures, elimination of deposit insurance for foreign currency deposits, setting mandatory minimum holding period for foreign currency deposits, and imposing quantitative limits on risk taking behavior banks can be used for the increasing opportunity cost of intermediation and usage of foreign currency

and deposits. However, discouraging the usage of foreign currency instruments should be compensated and complemented by introducing alternative domestic instruments to reroute savings within the domestic markets.

Levy-Yeyati and Arias (2003) note that the "carrot" approach is related to the usage and creation of domestic instruments instead of foreign currency instruments. For instance, CPI indexed assets turn out to be the most important component of this strategy. But these instruments should be design in a forward-looking manner not to create inflationary inertia. Moreover, while these assets are regarded as attractive for small savers, they are not capable of creating sufficient demand on borrowers' side. Effectiveness of these assets should be increased with implementation of coherent and consistent monetary policy. The dedollarization efforts may increase capital flight, may decrease bank credits and may affect inflation and growth in relevant country. These negative consequences may be minimized by using the "carrot and stick" approaches (Reinhart et al. (2003)).

In the highly dollarized economies, the derivatives markets perform a significant role. As demonstrated by Aquiar (2002), during Tequila crisis firms that are not fully hedged their dollarized liabilities lost their significant portion of net worth and investment and economic activity declined. In such a case, balance sheet effects at the firm level can have negative effects on investment, growth and financial sector even in countries in which domestic financial sector loans are not dollarized. Therefore, the derivatives markets should be constructed and promoted in highly dollarized countries.

According to Reinhart et al. (2003), only four countries, Israel, Mexico, Poland and Pakistan, dedollarized their financial system successfully and the most notable country that has achieved public debt dedollarization is Mexico. When the experience of Mexico is analyzed, it can be seen that the composition of debt has started to change since 1995. While the ratio of external dollar denominated debt to total debt was 80% in 1995, it reduced to nearly 50% in 2002. Budgetary needs of government are funded entirely in local markets. As explained by Galindo and Leiderman (2003), while debt management strategies have been important in explaining this pattern of debt composition, underlying fundamentals have been the most critical aspect in generating domestic currency debt markets. Mexico reduced its vulnerability to international capital markets crises substantially in the past years by reducing its share of dollar denominated public debt. This has been the result of strong and consistent fiscal consolidation accompanied by a prudent monetary policy. In addition, the integration of Mexico to the US and Canada has increased the country's growth potential. Therefore, the

ratio of debt to GDP has decreased the lowest levels in the past 30 years, and interest rates have declined to historical lows.

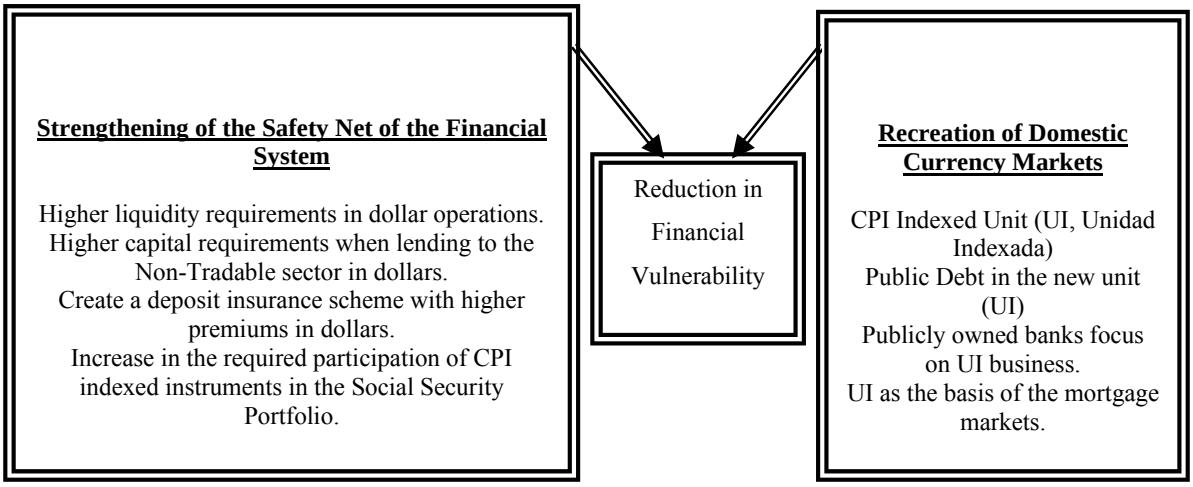
In the dedollarization route, developing capital markets in domestic currency or in indexed units associated to sound monetary and fiscal policy seems crucial. In that respect, CPI Indexed debt instruments are one of alternative assets. But using CPI index instruments requires stability in inflation and real exchange rate depreciation, developed and well functioning secondary markets. As explained by Galindo and Leiderman (2003), Latin American countries have frequently used CPI indexation in the past and the most successful country was Chile. It is believed that, the key to the success of the Chilean experience has been the credibility that index itself has developed as well as the credibility in monetary and fiscal policies. CPI indexation rules have not changed since the adoption of the UF (unidad de fomento - CPI indexed unit). However, the most important disadvantage of using CPI indexed instruments is increasing inflationary inertia in the dollarized economy. Therefore it should be designed in a forward-looking manner. To sum up, some countries may prefer to issue nonindexed domestic financial assets and other countries may prefer to use CPI indexed instruments.

Israel's experience demonstrates, promoting indexed instruments and the developing of domestic nominal financial assets in local markets may help to achieve dedollarization. When Israel's dedollarization success is analyzed, it can be seen that dedollarization has been mostly side effect of stabilization efforts. However, stabilization efforts are complemented by relatively active policy of changing the composition of public sector deficit finance toward nominal, local currency assets, lengthening the maturity of domestic nominal assets, and with the introduction of foreign exchange rate risk hedging instruments such as futures, options and swaps. In addition to these, Israel's experience also demonstrates ratchet effect in the process of indexation and dollarization. According to "ratchet effect", dollarization and indexation process rapidly develop when inflation accelerates to relatively high levels, but it does not immediately disappear once inflation has been decreased.

According to Licandro and Licandro (2003), any dedollarization strategy should base on two pillars. These two pillars are "strengthening of the safety net of the financial system" and "recreation of domestic currency asset markets". They assert that financial regulation in several countries does not fully incorporate the risks involved in the dollarization of their business and it is necessary to rethink this situation that undoubtedly has favored dollarization. It is thought that prudential requirements have to be stricter when the financial

system leads to an agent that perceives its income in domestic currency, even more so if that agent is state itself and liquidity requirements have to be higher in dollar business, reflecting the inability of Central banks to perform the lender of last resort in foreign currencies. They suggest the following scheme for a dedollarization strategy in Uruguay (see Table 6).

Table 6: Dedollarization Strategy



Source: Licandro, Gerardo and Licandro, Jose, Antonio, 2003.

VI. CONCLUSION

In general, partial dollarization is the result of some macroeconomic and institutional factors. Macroeconomic imbalances in country, such as high and volatile inflation rates and depreciating domestic currency, unsuccessful stabilization efforts, financial crises, under developed capital markets and loss of confidence in domestic currency may cause and exacerbate partial dollarization. In addition to these macroeconomic causes, some institutional factors may also affect the partial dollarization process in a country. For example, institutional factors and agents' expectations of future political developments may play a significant role. Partial dollarization may hinder policy making in the economy. It may create obstacles for monetary policy implementation and it may also introduce complications into the choice of exchange rate regime. In addition, partial dollarization may cause sharing of real seignorage revenue by foreign currency issuer central bank and domestic currency issuer central bank. Hence financial dollarization also affects fiscal balances. In addition to these, it may cause currency mismatches in the economy. The dollarization of public debt and dollarization of

firms' and financial institutions' balance sheets increases fragility of real and financial sector. Lastly financial dollarization also may affect pricing behavior of firms in the economy.

The dedollarization policies are now shifting from a generally passive stance of "learning to live with it" type approach to a more active stance such as "carrot and stick" approach. As mentioned in the previous section, an effective dedollarization strategy can be designed to consist of "carrot and stick" approach. This dual strategy mainly requires complementing of increasing cost of foreign currency demand by introducing domestic currency denominated financial instruments as alternatives.

According to Galindo and Leiderman (2005) dedollarization is an endogenous outcome of a persistent process of disinflation and stabilization rather than being the main objective of a policy program. Levy-Yeyati and Arias (2003), on the other hand, stresses the need for designing policies to fight actively against dollarization. The recent Turkish experience can be interpreted as being consistent with the passive stance approach of Galindo and Leiderman (2005).

Although dedollarization of the Turkish economy is not the main topic of this paper, the benefits of carrot and stick approach associated with successful stabilization program is clear when we consider implementation of Full Fledged Inflation Targeting Regime in the near future. As already discussed, partial dollarization creates some obstacles for successful implementation of FFIT and absence of external dominance (high degree dollarization) is required for a successful FFIT. Therefore, it could be argued that the need for an active dedollarization strategy such as the "carrot and stick" approach should be emphasized and discussed in Turkey. In addition to the "New Turkish Lira" Project and successful stabilization program, implementing "carrot and stick" approach by using prudential regulations and by creating attractive domestic instruments instead of foreign currency instruments may help to dedollarize economy. In such a framework, establishment of mortgage markets may perform important roles. For instance, a large small investor base for domestic currency denominated mortgage instruments may be aimed with a well designed publicity campaign focusing on addiction of Turkish people for real estates. And high public penetration of mortgage instruments may deepen financial markets and create alternative liquid and desirable domestic currency financial market instruments. Furthermore, İzmir Derivative Exchange Market may also help policymakers in route to dedollarization efforts.

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